

保護環境 Our Environment



丘德森先生是香港及離島區機電運作部的技工。他知道當工作範圍內的抽水設備遇上不尋常的運作情況時，保持警覺是十分重要的。因為若該設備最終出現故障，會導致停止供水，為客戶帶來不便。

Mr T S YAU is working in the M&E Operations of Hong Kong & Islands Region as an artisan. He knows that it is very important to be vigilant to any anomaly of the pumping plant under his care. Customers will suffer from unwanted interruption of water supply if the plant fails ultimately.







水務署龍翔道機電工場。
WSD Lung Cheung Road Mechanical and Electrical Workshop.

我們的挑戰

為香港的持續發展貢獻。

我們的方案

推行使用可再生能源試驗計劃。

OUR CHALLENGE

To contribute to the sustainable development of Hong Kong.

OUR SOLUTION

The introduction of pilot schemes on the use of renewable energy sources.



環保政策

Environmental Policy

從源頭到分配，水與環保息息相關。本署力求以符合環保的方式供水給用戶，並以此為己任。為此我們致力：

From source to distribution, water is an environmental issue. It is our responsibility to ensure that Hong Kong's water is channelled to customers in an environmentally safe and friendly manner. With this in mind, we are committed to :

- 善用電力和燃料以滿足操作要求；
- 減少辦公室用品的消耗，並在食水處理過程中減少使用氯氣、石灰及明礬等化學品；
- 減輕因建築工程對環境所造成的影響；
- 減少濾水廠的排污量；
- 減少工場和化驗室的固體、液體及化學廢物的數量；
- 減少配水系統的漏水量；
- 減少柴油機的廢氣排放及抽水站的噪音；及
- 嚴謹遵行各項環保規例。

- optimize the use of electricity and fuel to meet operational requirements;
- cut down on the consumption of glossary items in office and the use of chemicals such as chlorine, lime and alum in water treatment;
- minimize the environmental impact resulting from construction works;
- minimize the discharge of effluent from water treatment works;
- reduce the quantity of solid and liquid waste, as well as chemical waste, from workshops and laboratories;
- minimize water loss in the distribution system;
- reduce diesel engine emissions and pumping station noise; and
- strictly enforce compliance with all environmental regulations.

能源管理 Energy Management

配水的能源必須以持續有效而可行的方式使用。過去一年，本署成功在各方面節省 5.9% 的能源。

有賴操作水務設施時實行提升能源效益的措施，香港的食水供應耗電量得以大幅減低。這些措施包括：合理調度水庫存量、透過定期維修、表現監察和能源審計來善用供水設備、以及逐步淘汰舊機器。例如：本署引進能源使用量較低的抽水機葉輪，來取代木湖三號原水抽水站高壓泵原有的葉輪，藉以提升供水設備的操作效率。與此同時，我們亦不斷向員工灌輸節約能源的意識。

The energy we need to distribute water must be used with efficiency and, where practical, in a sustainable manner. Over the past year we have achieved a 5.9 per cent saving in energy consumption across the full range of our work.

Electricity consumption for the supply of fresh water in Hong Kong was reduced significantly, as a direct result of energy enhancement measures introduced in waterworks operations. These include the rationalisation of water transfers between reservoirs, optimising the condition of our plant through routine maintenance, performance monitoring and energy audits and the phasing out of old equipment. For example, we initiated a project to replace the pump impellers of the high head pumps at Muk Wu No. 3 Raw Water Pumping Station with smaller energy saving impellers in order to enhance the efficiency of plant operation. At the same time, we have instilled an awareness of energy conservation among all staff.



一個推動採用可再生能源的例子——在大美督食水缸裝置風力發電機及太陽能接收板。

An example of renewable energy initiatives – installation of wind turbine and solar panels at Tai Mei Tuk Fresh Water Tank.



將濾出的廢物製成泥餅的壓濾機。

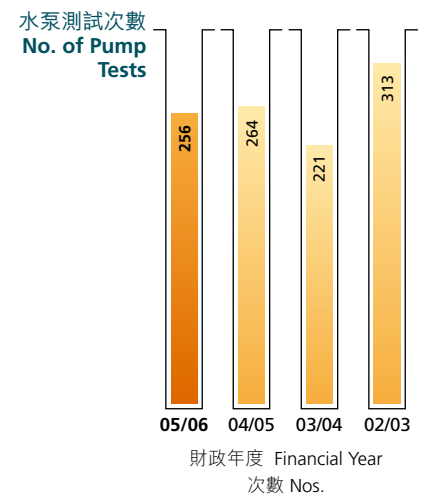
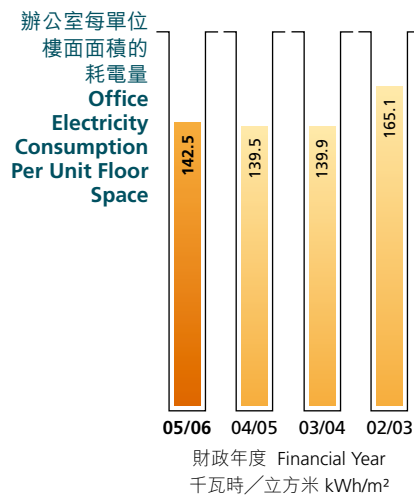
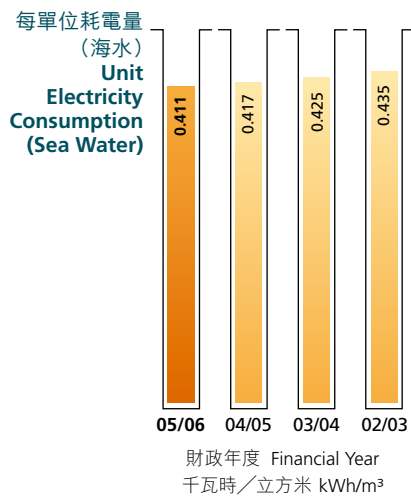
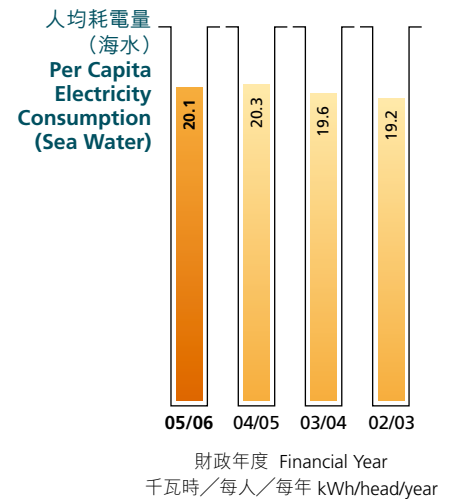
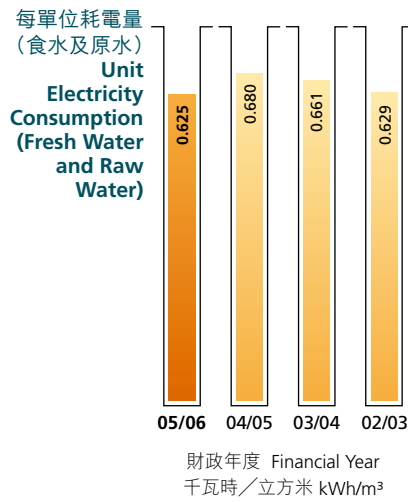
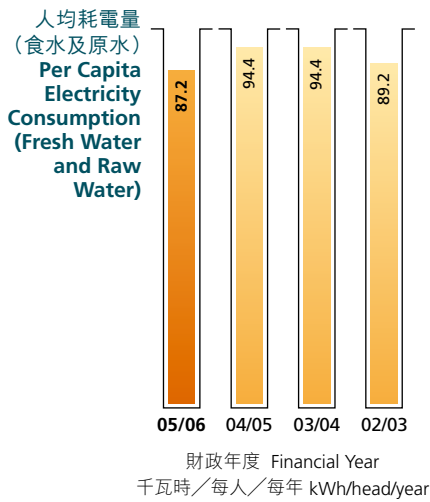
Filter press for converting treatment waste into sludge cakes.

即使二零零五年夏日炎炎，令冷氣機使用量大增，但辦公樓宇的用電量反低於過去五年平均耗用量7.3%，這成績主要有賴嚴謹的內務管理和及時替換效能更高的新設備。

Despite the hot weather of 2005 and a consequential increase in air conditioning loads, the electricity consumption in office buildings was kept at 7.3 per cent below the average consumption of the last five years. This is due primarily to vigilant housekeeping and a proactive programme to replace building services equipment with new and more efficient products.

為了保護環境、珍惜供水，本署不斷在業務上尋求及應用嶄新又認可的技術。

By seeking and applying new, yet proven technology across our business, we are contributing to environmental safeguards and conserving water supplies.



建議在屯門濾水廠裝置水力發電設施的示意圖
Schematic diagram of proposed hydro plant at Tuen Mun Water Treatment Works



大欖涌水塘
Tai Lam Chung Reservoir



可再生能源措施

儘管去年我們節省了不少能源；但展望將來，我們仍需繼續尋求可與我們運作配合的可再生能源。使用可再生能源，不單可以節省開支，同時亦有助減少發電廠的廢氣排放量，減輕空氣污染。

去年，本署為開發其他能源選擇，推行了幾個試驗方案和研究。目標是將可再生能源的應用範圍，由偏遠缺電地區的細小裝置，伸延至與供電系統相連的大型系統。這些方案包括：於兩個現存的濾水廠中，使用水力發電及光生電壓技術；及於建議興建的北大嶼山海水抽水站中，使用風力渦輪發電機。

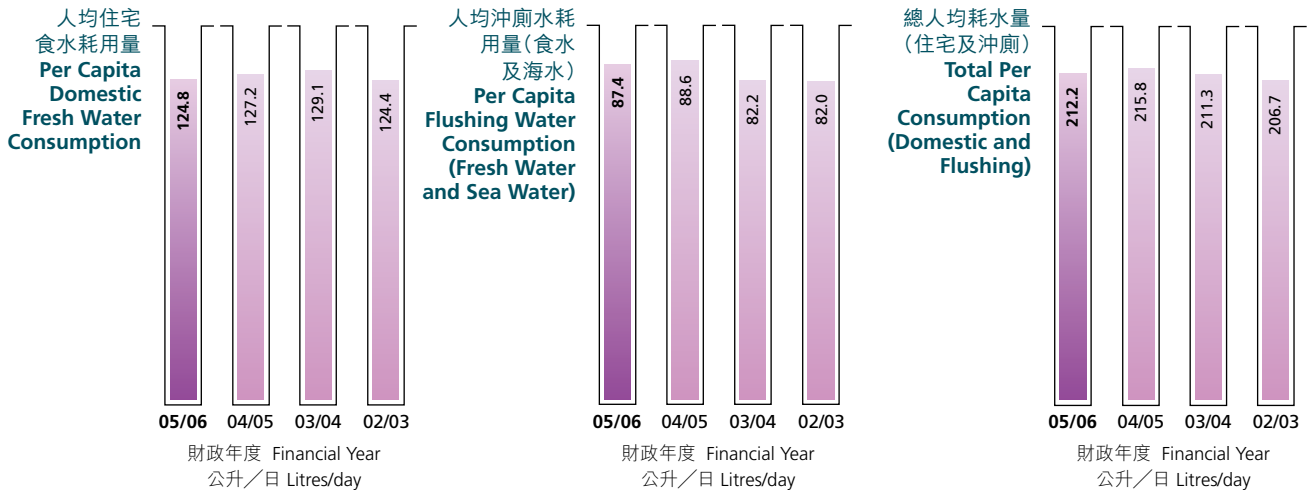
本署 180 個抽水站中，只有三個以柴油水泵運作，並一直保持於最少運作時間藉以減低廢氣排放。其中兩個抽水站所用的柴油水泵，將於二零零八年停用。餘下的水泵位於電力供應短缺的萬宜水庫，將來亦只會在嚴重乾旱時期方才使用。

Renewable Energy Initiatives

Despite the energy consumption savings made during the year, it is essential that we continue to look at future sources of renewable energy that can be integrated to our operations not only for achieving savings in energy costs but also helping reduce emission of polluted air from power plant.

Several pilot schemes and studies were launched during the past year to explore the feasibility of implementing schemes to exploit alternative energy sources. Our aim is to extend the application of renewable energy to cover small, isolated installations for the powering of instruments in remote sites to larger systems connected to the power grid. These schemes include the use of hydropower and photovoltaic technologies in two existing water treatment works and a wind turbine generator in a proposed salt water pumping station in North Lantau.

Of our some 180 pumping stations, only three now run on diesel pumps and their running hours are kept to the minimum to reduce emissions from our own plant. The pumps in two of these stations will be phased out by 2008. The remaining pumps, located at the High Island Reservoir where electricity supplies are limited, will only operate in the extreme case of serious and prolonged periods of dry weather.



廢物排放 Waste Discharge

本署不斷尋求方法，減少供水設施及器材的廢物排放，主要針對油污及固體廢料，以減輕對環境所造成的影響。新措施包括：於北港及上水濾水廠加裝壓濾機。此舉可提升兩間濾水廠廢物處理的效能，務求將所有在濾水過程中產生的廢物製成泥餅，然後棄置。

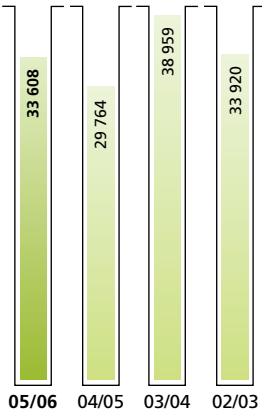
We are constantly seeking ways to mitigate or reduce the impact of waste discharge from our plant and equipment. Oil and solid waste materials are our principal targets. New initiatives include the installation of additional filter presses at the Pak Kong and Sheung Shui water treatment works. These filter presses enhance our capacity to convert treated waste into sludge cakes before disposal.

愛護大自然 Caring for the Environment

在部門的日常工作上，我們一直鼓勵愛護環境的文化。雖然在二零零五／零六年間的用紙量似有回升現象，但從辦公室內外所減少的表格和信封用量可見，我們的員工是時刻警覺節約用紙的需要。除了繼續提倡節約用紙，及在總部和分區辦事處，增強員工適當使用冷氣的意識之外，我們更配合政府的最新政策，鼓勵員工在炎夏穿著輕便的衣服上班。

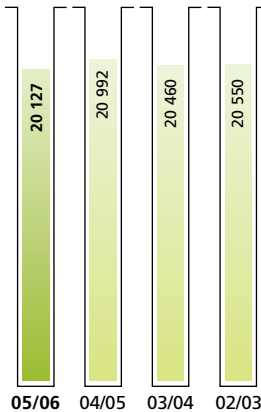
Department wide, we are encouraging a culture of environmental care and awareness in our day-to-day business. Despite the apparent increase in the consumption figure for 2005/06 as shown in the table, there is always an awareness of the need to minimise paper consumption, as reflected in a decrease in the amount of forms and envelopes used on an intra- and extra-office basis. We need to continue the drive to use less paper, to promote greater sensitivity to the use of air conditioners at the head office and regional offices and, in line with the latest Government policy, we are encouraging staff to dress down, i.e. to wear lighter clothes to work in the hot summer.

用紙量
Paper
Consumption



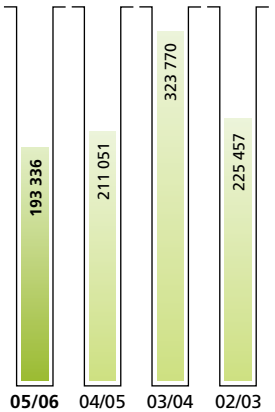
財政年度 Financial Year
令 Reams

通用表格及部門表格的用量
GF and Departmental Forms Consumption



財政年度 Financial Year
千張 1000 Sheets

信封用量
Envelopes Consumption



財政年度 Financial Year
個 Envelopes



柴油驅動泵組的操作時數
Running Hours of Diesel-driven Pumpsets



財政年度 Financial Year
小時/年 Hours/year

由於抽水運作耗用大量電能，必須對其狀況進行密切監察。

Pumping operations should be monitored closely as they consume substantial amount of electrical energy.